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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/068,540	02/08/2002	Jon H. Bechtel	GEN10 P-415	9899

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PRICE, HENEVELD, COOPER, DEWITT, & LITTON
695 KENMOOR, S.E.
P O BOX 2567
GRAND RAPIDS, MI 49501

EXAMINER

SPEARS, ERIC J

ART UNIT PAPER NUMBER

2878

DATE MAILED: 09/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/068,540

Applicant(s)

BECHTEL ET AL.

Examiner

Eric J Spears

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 17-26 and 43 is/are allowed.
- 6) ☒ Claim(s) 1-16, 27-36 and 44 is/are rejected.
- 7) ☒ Claim(s) 37-42 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-16 and 28-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1, line 3 recites the limitation "said support substrate". There is insufficient antecedent basis for this limitation in the claim.

Claim 8, line 1 recites the limitation "said optical radiation collecting portion". There is insufficient antecedent basis for this limitation in the claim.

Claim 9, line 1 recites the limitation "said light collecting portion". There is insufficient antecedent basis for this limitation in the claim.

Claim 13, line 1 recites the limitation "said light collecting portion". There is insufficient antecedent basis for this limitation in the claim.

Claims 28 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship between the mirror and the other recited elements of Claim 27.

Claim 29 recites the limitation "the mirror". There is insufficient antecedent basis for this limitation in the claim.

Regarding Claim 34, the recitation of elements of the second sensor device render the claim indefinite as the names or the elements are already used in Claim 27.

Claims not specifically mentioned are indefinite due to their dependency from an indefinite base claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5, 11, 27, and 44 rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al. (6,114,688).

Regarding Claims 1, 2, 27, and 44, Tanaka teaches a sensor device comprising a support structure (a lead frame) 2, a sensing element 1, an encapsulant 3a comprising a lens portion 11 and a optical radiation collector portion 12 surrounding the lens portion.

Regarding Claim 3, Tanaka teaches "at least one" lead.

Regarding Claims 4 and 5, Tanaka teaches the lenses are elliptical (i.e. spherical) and aligned with the sensor (Col. 3, lines 56-65).

Regarding Claim 11, Tanaka teaches the sensor is sensitive to light (i.e. visible) (See abstract).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 9, and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al. (6,114,688).

Regarding Claims 6 and 9, Tanaka does not teach the radiation collecting portion including a parabolic surface. However, the exact shape of the surface would be an obvious design choice to one of ordinary skill in the art, in order to optimize light convergence or collection.

Regarding Claims 12, 14, and 15, Tanaka does not explicitly teach the sensor accumulating charge. However, the use of charge accumulating photodetectors and circuitry to readout signals is well known in the art. It would have been obvious to one of ordinary skill in the art to provide a sensing element which stores photoelectric charge and readouts said charge, in order to provide a photosensor with a time averaged output.

Regarding Claim 13, Tanaka does not teach the radiation collecting portion including a parabolic surface. However, the exact shape of the surface would be an obvious design choice to one of ordinary skill in the art, in order to optimize light convergence or collection.

Regarding Claim 16, Tanaka does not teach the use of an epoxy. However, Tanaka does not the encapsulant being a resin molding. Epoxies are well known in the art for use as resins. It would have been obvious to one of ordinary skill in the art to use an epoxy for the encapsulant as the use of such materials is well known in the art, in order to provide a known and easily obtainable building material.

Allowable Subject Matter

Claims 17-26 and 43 are allowed.

Claims 37-42 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7, 8, 10, and 28-42 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Regarding Claim 17, the prior art of record fails to teach or reasonably suggest a sensor assembly comprising, in addition to the other related features of the claim, a housing and a diffusing element, as recited in Claim 17, lines 2-3.

Regarding Claim 43, the prior art of record fails to teach or reasonably suggest a sensor assembly comprising, in addition to the other related features of the claim, a housing and a diffusing element, as recited in Claim 43, lines 2-3.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding Claim 7, the prior art of record fails to teach or reasonably suggest a sensor device comprising, in addition to the other related features of the claims, the parabolic surface redirecting light by total internal reflection as recited in Claim 7.

Regarding Claim 10, the prior art of record fails to teach or reasonably suggest a sensor device comprising, in addition to the other related features of the claims, the parabolic surface redirecting light by total internal reflection as recited in Claim 10.

Regarding Claim 28, the prior art of record fails to teach or reasonably suggest a sensor device comprising, in addition to the other related features of the claims, the device provided in a rear-view mirror assembly, as recited in Claim 28.

Regarding Claim 37, the prior art of record fails to teach or reasonably suggest a sensor device comprising, in addition to the other related features of the claims, the device provided to control a vehicle light, as recited in Claim 37.

Regarding Claim 40, the prior art of record fails to teach or reasonably suggest a sensor device comprising, in addition to the other related features of the claims, the device provided to control windshield wipers, as recited in Claim 40.

Regarding Claim 41, the prior art of record fails to teach or reasonably suggest a sensor device comprising, in addition to the other related features of the claims, the device provided to control a climate control system, as recited in Claim 41.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Iizuka (5,172,206) teaches a sensor with a reflector redirect light.

Hubble, III et al. (6,320,182) teaches a light collector.

Dormidontov et al. (5,140,142) teaches a light collector.

Polye (3,260,849) teaches a light collection device.

Kelly (4,023,368) teaches a light collection device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric Spears whose telephone number is (703) 306-0033. The examiner can normally be reached on Monday-Friday from 10:00am to 6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (703) 308-4852. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

EJS
08/15/03


Qu T. Le
Primary Examiner